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(71) Applicants (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL). **NALUX CO., LTD** [JP/JP]; Yamazaki 2-1-7, Shimamoto-Cho, Mishima-Gun, Osaka 618-0001 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HATADE, Kouei**

[JP/JP]; c/o Yamazaki 2-1-7, Shimamoto-Cho, Mishima-Gun, Osaka 618-0001 (JP). **JUTTE, Petrus, T.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **VAN DEN EERENBEEMD, Jacobus, M., A.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

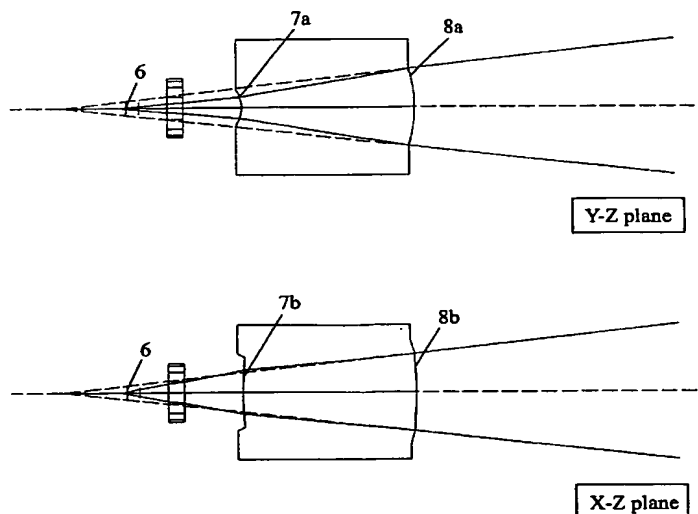
(74) Agent: **VISSER, Derk**; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

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(54) Title: BEAM-SHAPING OPTICAL ELEMENT AND METHOD AND PROGRAM FOR DESIGNING THE SAME



(57) Abstract: A beam-shaping optical element employing an aspherical profile is presented to minimize aberration. A beam-shaping optical element according to the present invention includes an entrance surface and the exit surface, both having a non-circular cross-section in any plane comprising the optical axis. A beam-shaping optical element according to one embodiment of the present invention, has the optical axis coinciding with the Z-axis of a three-axis rectangular XYZ system of coordinates, and the entrance surface and/or the exit surface represented by a mathematical equation comprising a term representing a non-rotationally symmetric aspherical profile, at least one correction term comprising a function of variable X alone and at least one correction term comprising a function of variable Y alone.